CLAIMS AMENDMENTS

Please cancel claims 14-17 and 33-35, without prejudice.

Please amend the claims as follows:

Claim 1 (canceled)

Claim 2 (canceled)

Claim 3 (canceled)

Claim 4 (canceled)

Claim 5 (canceled)

Claim 6 (canceled)

Claim 7 (canceled)

Claim 8 (canceled)

Claim 9 (canceled)

Claim 10 (canceled)

Claim 11 (canceled)

Claim 12 (canceled)

Claim 13 (canceled)

Claim 14 (canceled)

Claim 15 (canceled)

Claim 16 (canceled)

Claim 17 (canceled)

Claim 18 (canceled)

Claim 19 (canceled)

Claim 20 (canceled)

Claim 21 (canceled)

Claim 22 (canceled)

Claim 23 (canceled)

Claim 24 (canceled)

Claim 25 (canceled)

Claim 26 (canceled)

Claim 27 (canceled)

Claim 28 (canceled)

Claim 29 (canceled)

Claim 30 (canceled)

Claim 31 (canceled)

Claim 32 (canceled)

Claim 33 (canceled)

Claim 34 (canceled)

Claim 35 (canceled)

Claim 36 (canceled)

37. (New) An isolated postnatal animal stem cell capable of self-renewal and capable of differentiation to cells of endodermal, ectodermal and mesodermal lineages, genetically engineered to express a gene or protein of interest.

38. (New) The stem cell of claim 37 which is a rat, human, rabbit, avian, or mouse cell.

39. (New) The stem cell of claim 37 which is a human cell.

40. (New) The stem cell of claim 37 which is isolated from postnatal tissue selected from the group of muscle, dermis, fat, tendon, ligament, perichondrium, periosteum, heart, aorta, endocardium, myocardium, epicardium, large arteries and veins, granulation tissue, peripheral nerves, peripheral ganglia, spinal cord, dura, leptomeninges, trachea, esophagus, marrow, stomach, small intestine, large intestine, liver, spleen, pancreas, parietal peritoneum, visceral peritoneum, parietal pleura,visceral pleura, urinary bladder, gall bladder, kidney, associated connective tissues or bone marrow.

41. (New) The stem cells of claim 37 wherein the cells are capable of differentiating to form differentiated cells of one or more of skeletal muscle, smooth muscle, cardiac muscle, fat cells, hematopoietic cells, cartilage, bone, endothelial cells, neurons, glial cells, pancreatic islet cells, and connective tissue and wherein the stem cells express the gene or protein of interest in the differentiated cells.

42. (New) The stem cells of claim 37 wherein the cells have been propagated past 50 cell doublings.

43. (New) The stem cells of claim 37 wherein the cells have been propagated to cell doublings of between 12 and 47.

44. (New) An isolated postnatal human stem cell capable of self-renewal and capable of differentiation to cells of endodermal, ectodermal and mesodermal lineages wherein the cell expresses cell surface antigen SSEA4, genetically engineered to express a gene or protein of interest.

45. (New) A method of producing genetically engineered postnatal animal stem cells comprising the steps of:

(a) transfecting postnatal animal stem cells capable of self-renewal and capable of differentiation to cells of endodermal, ectodermal and mesodermal lineages with a DNA construct comprising at least one of a marker gene or a gene of interest;

(b) selecting for expression of the marker gene or gene of interest in the postnatal animal stem cells; and

(c) culturing the stem cells selected in (b).

46. (New) The method of claim 45 wherein the postnatal stem cells are human cells and express stage specific embryonic antigen SSEA4 and CD10 cell surface markers.

47. (New) Genetically engineered postnatal human stem cells produced by the method of claim 45.

48. (New) A culture comprising:

(a) the genetically engineered stem cells of claim 45; and

(b) a medium capable of supporting the proliferation of said stem cells.

49. (New) The culture of claim 48, further comprising a proliferation factor or lineage commitment factor.

50. (New) The culture of claim 48 wherein the stem cells are human cells.

51. (New) The stem cells of claim 37 or the culture of claim 48 wherein the cells retain cell surface embryonic antigen.